

1 of 308 results | [Next Story](#) | [Back to Results List](#)

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Employment And Labor - Slow Motion

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In the spring of 2000, a lawyer asked Dr. Allen Parmet, an occupational medicine specialist in Kansas City, Mo., to review the files of nine workers. All were employed at a microwave popcorn plant in Jasper, Mo. All had serious lung ailments.

"I took a look," Parmet recalled recently, "and in 20 minutes said, 'Holy smoke -- we've got an epidemic.' "

The doctor was referring to a cluster of bronchiolitis obliterans, an extremely rare and lethal lung disease. Eight of the nine workers had it. "The whole county should have one case every four or five years," Parmet said. "Seeing eight of them in front of me, I knew I had a problem."

Parmet's discovery prompted a federal probe. Investigators with the National Institute for Occupational Safety and Health, which is part of the Centers for Disease Control and Prevention, went into the Jasper plant in November 2000 and identified a possible culprit: a chemical called diacetyl, used in artificial butter flavoring, which has since been shown to destroy the lungs of rodents in laboratory tests. The plant's stagnant air was thick with the stuff.

In the six and a half years since the Jasper inspection, the evidence against diacetyl has mounted. NIOSH put out a nationwide alert in 2003 warning of an "unrecognized occupational health risk" -- bronchiolitis obliterans -- and suggesting that employers control exposure to flavoring chemicals. At least five workers

from popcorn or flavor manufacturing plants have succumbed to the disease, and seven cases have been confirmed in Southern California alone since 2004. Hundreds of other workers across the nation have fallen ill with suspicious lung problems.

In July 2006, the United Food and Commercial Workers International Union and the International Brotherhood of Teamsters, backed by Parmet and 41 other scientists and physicians, filed a petition asking that the Labor Department's Occupational Safety and Health Administration adopt an "emergency temporary standard" for diacetyl. Such a step, setting an exposure limit for a virulent chemical that has none, is usually reserved for dire hazards.

Precedent exists for such a move, however: In 1974, for example, OSHA took only three months to set an emergency limit for vinyl chloride, a chemical used to make plastic, after four workers at a plant in Kentucky developed an unusual form of cancer.

More than nine months have passed since the diacetyl petition was filed, and the flavoring industry has mounted little opposition. OSHA has given no indication of when -- or if -- it will adopt an emergency standard, although it announced on April 24 that it will begin a nationwide inspection program for microwave popcorn plants. OSHA critics immediately disparaged the plan, saying that the diacetyl risks extend to facilities that make other flavorings -- almond, jalapeno, and cherry, among others -- as well as to those that make cookies, candy, cake mixes, dog food, and other consumer products.

On the same day that OSHA announced the inspection program, its administrator, Edwin Foulke Jr., told the House Education and Labor Subcommittee on Workforce Protections that the agency did not stand pat after NIOSH issued its interim report on the Jasper plant in 2001. OSHA "took immediate action to alert all [regional] administrators of this report and to identify, as part of our inspection process, those facilities where these particular symptoms or illnesses may be occurring," Foulke said. "And we also have been working on developing guidance" to employers. But he

was not ready to declare diacetyl an imminent health threat, worthy of an expedited -- and potentially costly - standard. "I guess the question is, 'Is diacetyl a hazard?' " he said. "And, unfortunately, that's not an easy yes-or-no answer."

Bronchiolitis obliterans is seldom seen outside the food industry, Parmet said. Industrial accidents that expose workers to lung-searing chemicals such as sulfuric acid can cause it, he said, as can drugs used to mitigate organ rejection after transplants. Neither of those conditions is relevant to the food-plant cases at issue, however.

California's Division of Occupational Safety and Health, known as Cal-OSHA, doesn't have to wait on the final word from the feds. Last year it launched a "special-emphasis" inspection program for diacetyl and issued citations to two Southern California flavoring plants, accusing them of failing to report worker illnesses and seeking \$97,310 in penalties. Having made an example of these two plants, Cal-OSHA had little trouble persuading 28 others to voluntarily change their health and safety programs. The agency is moving toward adoption of a permanent diacetyl rule, perhaps by summer.

"It looks pretty clear to me that we'll have a rule on the books before they do," Len Welsh, acting chief of Cal-OSHA, said of his federal counterparts.

OSHA's critics, who pounced when Congress overturned a proposed ergonomics standard early in President Bush's first term, say that the agency has been unwilling to issue regulations and instead tries to curry favor with industry through "partnerships" and other voluntary programs.

"Standards have become 'guidance,' " said Peter Infante, who resigned as director of OSHA's Office of Standards Review in 2002. "It's pathetic."

Fewer Inspections

On-the-job injuries kill about 6,000 workers in the United States each year. Occupational illnesses take a

far heavier toll, although they get less media coverage than accidents that kill and maim: refinery explosions, trench cave-ins, scaffold collapses. By conservative government estimates, work-related cancer kills 24,000 annually -- more than AIDS or homicide. Thousands more perish from, or are incapacitated by, other work-related illnesses.

Unlike traumatic injuries, occupational diseases rarely leave a clear trail for investigators. The damage that chemicals inflict on workers can take decades to show up. For this reason, health advocates say, suspect chemicals must be presumed guilty and strict exposure ceilings must be established. Health standards force employers to limit toxic exposures through engineering controls, respiratory protection, changes in processes, or some combination of the three.

Critics say that the Bush administration's cooperative approach is flawed. "The way to get healthier and safer workplaces," said Adam Finkel, a former OSHA director of health standards, "is through credible, balanced activity by OSHA, including some amount of meaningful partnerships -- as opposed to the meaningless partnerships they have now -- and plain old garden-variety enforcement, in the same way we enforce laws against drunk driving and insider trading and mayhem on the streets."

From 1972 through 1979, OSHA issued 10 new or revised health standards, one of which covered 14 cancer-causing substances. From 1980 through 1989, it issued 11, including one -- ultimately nullified by the courts -- that would have updated exposure limits for 428 chemicals at once. It issued 11 more standards in the 1990s. Since Bush took office in 2001, it has issued only two, neither of which it conceived. In one case, the agency rubber-stamped a congressionally mandated update of a rule on blood-borne pathogens, and in the other, it tightened the exposure limit for a potent lung carcinogen called hexavalent chromium after a judge ordered it to do so.

"OSHA has essentially stopped functioning," said David Michaels, director of the Project on Scientific Knowledge and Public Policy at George Washington

University and a former assistant secretary of Energy, who signed the diacetyl petition. "Industry in this case has even said, 'We'll work with you to come up with a [diacetyl] regulation,' and OSHA still isn't doing anything."

Rep. **Lynn Woolsey**, D-Calif., chairwoman of the Workforce Protections Subcommittee, opened its April 24 hearing by saying that the Bush administration "has the worst record on standard-setting of any administration in the history of the [OSHA] law." Foulke responded that OSHA was "actively working" on 21 regulatory projects, including four final rules and 10 proposed rules. "Setting safety and health standards is a critical part of our balanced approach to protecting workers," he said.

The record indicates that OSHA isn't inspecting workplaces for health problems as frequently as it used to. The agency conducted 6,736 health inspections during fiscal 2006; that's 30 percent fewer than the 9,555 it did at its peak in 1994. Finkel, who left OSHA in 2004 and teaches at Princeton University and the University of Medicine and Dentistry of New Jersey, maintains that under Bush the agency has been inexcusably slow to act on hazards, new and old. One example of the latter is crystalline silica, a mineral unleashed during sandblasting, mining, and concrete-cutting. Silica attacks the respiratory system and can cause a slow form of suffocation known as silicosis; researchers have also linked it to lung cancer. OSHA estimates that more than 2 million American workers are exposed to silica dust, whose deadly properties were known to the ancient Greeks and Romans. The agency says it is still mulling the costs and benefits of tightening the exposure limit for silica. The current limit is twice what NIOSH recommended 33 years ago.

OSHA History

The Occupational Safety and Health Act of 1970 states that OSHA's mission is "to assure safe and healthful working conditions for working men and women," primarily by developing and enforcing standards. Throughout the 1970s, the agency aggressively set

exposure limits on workplace contaminants such as asbestos, lead, and arsenic.

In January 1974, B.F. Goodrich announced that four workers at one of its plants in Louisville had been diagnosed with angiosarcoma, an arcane cancer of the liver. Because all four had worked in the polyvinyl chloride (PVC) polymerization section of the plant, suspicion fell on the key ingredient of PVC plastic, vinyl chloride, which had been found to cause angiosarcoma in lab animals. In April 1974, OSHA adopted an emergency temporary standard for vinyl chloride of 50 parts per million. By the end of the year, it had imposed a permanent limit of 1 ppm.

When President Carter named Eula Bingham, an associate professor at the University of Cincinnati College of Medicine, as OSHA administrator in 1977, the agency stepped up its pace. In 1978 alone, it issued standards for six dangerous compounds: benzene; arsenic; cotton dust; DBCP (dibromochloropropane, a pesticide linked to cancer, sterility, and birth defects); acrylonitrile (a carcinogenic substance used to make plastics, rubber, and textiles); and lead.

In 1981, President Reagan, less than a month into his first term, signed an executive order stating that a federal agency could not adopt any rule "unless the potential benefits to society from the regulation outweigh the potential costs to society." That occasioned a significant shift in emphasis at OSHA, where Reagan's new chief, Thorne Auchter, declared that the agency would become more business-friendly.

OSHA had absorbed a setback even before Reagan was sworn in. In its early days, OSHA sought a high level of protection against toxic chemicals, aiming to keep exposures so low that no more than one more case of cancer would occur per 1 million workers. In 1980, however, the Supreme Court ruled in favor of the American Petroleum Institute, which had challenged the 1978 benzene standard. The Court decreed that OSHA could regulate only "significant" chemical risks. The justices did not spell out exactly what this meant, although John Paul Stevens observed that one extra case of cancer per 1,000 people was probably significant.

OSHA has adhered to that one-in-1,000 benchmark ever since. By comparison, the Environmental Protection Agency says that no member of the public should face a cancer risk from hazardous chemicals higher than one in 1 million. In short, a worker inside a factory receives less protection, by a factor of 1,000, than someone living beyond the plant fence.

Even so, during the Reagan administration, OSHA put out new or revised standards for formaldehyde, asbestos, benzene, and other toxic substances. It also made modest headway under President George H.W. Bush, adopting a standard that required physicians and dentists to control exposures to blood-borne pathogens. The rule was a response to the 1991 death of Kimberly Bergalis, a young Florida woman believed to have contracted HIV/AIDS from her dentist.

Charges of foot-dragging at OSHA are not new. It took seven years and a lawsuit by the advocacy group Public Citizen in 1981 to force OSHA to tighten its standard for ethylene oxide, a chemical used to sterilize medical equipment, which can cause cancer, chromosome and neurological damage, and spontaneous abortions. It took 13 years and a Public Citizen petition in 1993, followed by a lawsuit in 1997, for OSHA to shore up its standard for hexavalent chromium, a metallic compound used in chrome plating and specialty paints, which can cause lung cancer. OSHA spent more than a decade developing an ergonomics standard designed to protect workers from crippling musculoskeletal injuries -- only to see Bush and Congress cancel it in 2001.

It's not necessarily a bad thing that over the years OSHA's ability to set standards has been limited by the courts, the White House, and Congress on grounds that the agency should consider the economic costs of its actions, said David Sarvadi, a Washington lawyer who has represented industry in regulatory matters for two decades. Perhaps OSHA, having tackled the most obvious and menacing workplace risks in its initial years, should be forced to justify new rules that could prove costly to businesses while offering only marginal health improvements, he said. "Maybe everything that could be done effectively and efficiently in this area has

already been done."

Finkel, the former OSHA health standards director, calls this "colossally ignorant" reasoning. "The workplace is not anywhere near the point of diminishing returns, or the point at which all the low-hanging fruit has been plucked," he said. "There's stuff from the Roman Empire that's not being dealt with properly."

Foulke declined, through a Labor Department spokeswoman, to be interviewed for this article. A lawyer from Greenville, S.C., who represented employers in OSHA disputes and served five years on a board judging workplace citations, Foulke became the Bush administration's fourth OSHA chief in April 2006. He was a "Pioneer" for Bush in 2004, having pledged to raise at least \$100,000 for the president's re-election campaign. In recent speeches, Foulke has been promoting voluntary compliance programs -- "a concept near and dear to my heart," he told the American Bakers Association on February 27 -- and "guidance documents" rather than enforceable rules. While promising that OSHA will still crack down on recalcitrant employers, Foulke has made it clear that he does not want industry to fear the agency.

18 Percent Lung Volume

Diacetyl may present the stiffest test of OSHA's will in Bush's second term. The scientific evidence against the chemical is strong, although not incontrovertible. According to a new NIOSH review of the medical literature, "Irreversible obstructive disease exists in workers throughout the microwave popcorn industry, in flavoring manufacture, and in the chemical synthesis of diacetyl, a predominant chemical in butter flavoring. Biologic plausibility of the role of diacetyl and other components of butter flavoring in causing bronchiolitis obliterans exists in rodent experiments." A 2006 review by three researchers at the University of California (Los Angeles) concluded, "Current data suggest that diacetyl is the agent responsible [for the outbreak of lung disease], although it is possible that diacetyl is simply a marker for another causative agent."

Parmet, the Kansas City physician, said that bronchiolitis obliterans -- which can mimic emphysema or severe asthma -- is extraordinarily rare outside the food industry. "In the general population, you're going to see one case in 40,000 to 100,000 people," Parmet said. "In the [400] workers from the flavoring plants I have seen, I would say the risk is running about 1 to 2 per 100. I don't think there's doubt in anybody's mind that [diacetyl] is a risk to workers. It's not acceptable to continue exposing workers to a chemical when you can prevent it."

Little industry opposition has surfaced to a diacetyl exposure limit. "We want safe workplaces, and will do whatever it takes to assure them," said Glenn Roberts, executive director of a key trade group, the Flavor and Extract Manufacturers Association. The group put out a 32-page booklet on workplace safety several years ago, Roberts said, and "we have proposed to our members a comprehensive plan of engineering controls around the plants to protect the workers from diacetyl or anything else."

At the April 24 subcommittee hearing, however, Baruch Fellner, an employment lawyer who specializes in challenges to OSHA regulations, cautioned against haste in setting an inflexible rule. OSHA, he said, should not try to cut through the complexity of rule-making "and recognize a few studies that seem to point in the direction of the most protective standard it can promulgate. Even if the agency could get away with such a truncated process, which I submit it cannot, it is simply not good public policy to ignore the enormous costs of OSHA regulations."

Any action that OSHA takes will come too late for Ed Pennell and Vicki Stillmunkes, former popcorn plant workers whose lungs have been irreparably damaged and who sued flavor manufacturers. Pennell's case was settled for an undisclosed amount in 2004; Stillmunkes's is pending.

Pennell, 54, began working at the Jasper plant in 1992, mixing oil with butter flavoring and salt in stainless steel vats. "You were in an enclosed room," he said. "You had a tank that you poured everything into. It was

a hot, sweaty, smelly job. You'd smell the butter at the end of the night when you left. You'd have a taste in your mouth."

By 1994, Pennell had developed what he described as a "hacking cough. It just hung on, and got worse and worse and worse." After seeing a variety of doctors, all of whom were mystified about the cause of his ailment, Pennell was referred to Parmet, who diagnosed bronchiolitis obliterans. Today, Pennell said, "I've got 18 percent lung volume. I have no physical endurance whatsoever. I just sit on a tractor a lot; I can't do manual labor." He is awaiting a lung transplant.

Stillmunkes, 48, worked at a Pop Secret plant in Iowa City, Iowa, from 1997 to 2000. She developed shortness of breath and chronic fatigue, which she attributed to high blood pressure. After a series of misdiagnoses, she learned the truth from a doctor in Cedar Rapids, where she lives: She had an obscure, unpronounceable disease that had taken away more than half of her lung capacity.

Stillmunkes said she sees no reason for OSHA to wait for more-conclusive evidence before moving against diacetyl. "It's very unfair to expose someone to something when you know it's dangerous," she said. "What's the holdup?"

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